REMARKS

Claims 1 to 8 and 11 to 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katoh et al. (U.S. Patent No. 5,402,641; hereinafter "Katoh") in view of Leyer et al. (U.S. Patent No. 5,643,542; hereinafter "Leyer"). Applicants respectfully submit that the combination of Katoh and Leyer is insufficient to support a case of *prima facie* obviousness under 35 U.S.C. § 103(a) of claims 1 to 8 and 11 to 15 for the reasons explained below.

1) As to exhaust gas

The present invention is a process (system) for purifying exhaust gas from a gasoline engine of a fuel-direct-injection type as recited in the current claims of the present application.

An exhaust gas from the gasoline engine of a fuel-direct-injection type of the present invention, as specified in current claim 1 of the present application, is different from exhaust gas from an ordinary gasoline engine.

In more detail, the gasoline engine of a fuel-direct-injection type compresses air in a cylinder and injects gasoline into compressed air as fuel.

In contrast, the lean burn engine of Katoh operates at a lean air-fuel ratio (please refer to "Description of the Related Art" of Katoh).

The lean air-fuel ratio means such a condition that an amount of O_2 (air) exceeds a level which allows fuel to completely combust into CO_2 and H_2O. A mixture of fuel and air at a lean air-fuel ratio is injected inside the cylinder and the mixture combusts in the engine. This results in exhaust gas from the lean burn engine.

The invention of Katoh is a process (system) for purifying exhaust gas from a lean burn engine. Thus, the process (system) of the present invention and the process (system) of Katoh are completely different from each other.

2) As to catalyst

The catalyst of the present invention contains a noble metal and a fire-resistant inorganic oxide carrying the noble metal, and the catalyst can purify CO, NO_x, and HC contained in the exhaust gas.

In contrast, the invention of Katoh absorbs and removes NO_x contained in the exhaust gas and uses an absorbent for separating SO_2 and NO_x from each other.

Thus, it is obvious that the inventions are not identical with each other but are different from each other.

Moreover, the catalyst of the present invention and the absorbent of Katoh are different from each other in effect, so that they are different from each other in the field to which the

invention is applicable. Thus, a person skilled in the art could not have reasonably predicted the catalyst of the present invention over the absorbent of Katoh.

3) As to controlling of temperature at an inlet of the catalyst

First, the characteristic of current claims 1 and 11 of the present application is as follows:

> "preparing an exhaust gas purifying-use catalyst for purifying first exhaust gas produced under a driving condition at which an air fuel ratio is stoichiometric,
>
> wherein the exhaust gas varies between a first exhaust gas state having an exhaust-gas temperature in range of 350 to 800°C at an inlet of the catalyst and a second exhaust gas state that forms a more oxidizing, as compared with the first exhaust gas, depending on changes in air-fuel ratio, and
>
> wherein the second exhaust gas is controlled so as to have an exhaust-gas temperature which is lower than the first exhaust gas, and which is in a range of 200 to 350°C at the inlet of the catalyst."

That is, the invention of claims 1 and 11 of the present application is characterized in that: "exhaust gas purifying-use catalyst for purifying the first exhaust gas also allows purification of the second exhaust gas of lean burn by controlling the temperature at the inlet of the catalyst".

The exhaust gas purifying-use catalyst of the internal combustion described in Katoh relates to purification of exhaust gas. However, as described in the Abstract:

> "[a]n NO_x absorbent is installed in an exhaust conduit of an internal combustion engine capable of fuel combustion at lean air-fuel ratios. An oxygen concentration is repeatedly or continuously decreased by, for example, switching the air-fuel from the lean-air fuel ratio to a stoichiometric or rich air fuel ratio when the exhaust gas temperature is higher than 550°C or when NO_x absorbent temperature is higher than 550°C",

thereby recovering the SO_x-poisoned NO_x absorbent.

In other words, the invention of Katoh neither teaches nor suggests such characteristics of current claims 1 and 11 of the present application that it is possible to purify both the first exhaust gas and the second exhaust gas by controlling the temperature at the inlet of the catalyst depending on a gas condition of each gas.

Further, Leyrer alone and in combination with Katoh neither teaches nor suggests the characteristic of current claims 1 and 11 of the present application.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Katoh in view of Leyer as applied to claim 1 and further in view of legal precedent. The propriety of this

rejection depends on the rejection of claim 1. Since claim 1 has been shown to be patentable, claim 16 is prima facie patentable.

Removal of the rejections of the claims is believed to be in order and is respectfully requested.

The foregoing is believed to be a complete and proper response to the Office Action dated August 15, 2006, and is believed to place this application in condition for allowance. If, however, minor issues remain that can be resolved by means of a telephone interview, the Examiner is respectfully requested to contact the undersigned attorney at the telephone number indicated below.

In the event that this paper is not considered to be timely filed, applicants hereby petition for an appropriate extension of time. The fee for any such extension may be charged to our Deposit Account No. 111833.

In the event any additional fees are required, please also charge our Deposit Account No. 111833.

Respectfully submitted,
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